

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-32 (Canceled)

Claim 33 (New): A transgenic plant comprising elevated levels of barley alanine aminotransferase in the root epidermis, wherein said transgenic plant comprises a transgene, wherein said transgene comprises SEQ ID NO: 2 operably linked to SEQ ID NO: 1.

Claim 34 (New): A seed of said transgenic plant of claim 33.

Claim 35 (New): A method of generating the plant according to claim 33, comprising providing an expression vector, wherein said expression vector comprises SEQ ID NO: 2 operably linked to SEQ ID NO: 1;

introducing said expression vector into a plant cell; and

producing said plant from said plant cell.

Claim 36 (New): A method for preferentially producing alanine aminotransferase in the root epidermis of a plant, comprising

operatively linking a nucleic acid encoding alanine aminotransferase to SEQ ID NO: 1 to form a construct;

introducing said construct into a plant cell;

producing a plant from said plant cell, wherein said plant comprises a root epidermis;
and

expressing said construct in said plant to preferentially produce alanine aminotransferase in said root epidermis of said plant.

Claim 37 (New): The method of claim 36, wherein said plant is selected from the group consisting of corn, wheat, rice, barley, canola, soybean, cotton, alfalfa, safflower, tomato and potato.

Claim 38 (New): The method of claim 36, wherein said plant is canola.

Claim 39 (New): The method of claim 36, wherein said plant is corn.

Claim 40 (New): The method of claim 36, wherein said alanine aminotransferase is barley alanine aminotransferase.

Claim 41 (New): The method of claim 40, wherein said barley alanine aminotransferase nucleic acid has a nucleotide sequence of SEQ ID NO: 2.

Claim 42 (New): A method for increasing nitrogen use efficiency of a plant, comprising
operatively linking a nucleic acid encoding alanine aminotransferase to a root epidermis-specific promoter to form a construct;

introducing said construct into a plant cell;

producing a plant from said plant cell, wherein said plant comprises a root epidermis;
and

expressing said construct in said plant to produce elevated levels of alanine aminotransferase in said root epidermis in order to increase nitrogen use efficiency of said plant.

Claim 43 (New): The method of claim 42, wherein said root epidermis-specific promoter has a nucleotide sequence of SEQ ID NO: 1.

Claim 44 (New): The method of claim 42, wherein said plant is a canola plant.

Claim 45 (New): The method of claim 42, wherein said alanine aminotransferase is barley alanine aminotransferase.

Claim 46 (New): The method of claim 45, wherein said barley alanine aminotransferase

nucleic acid has a nucleotide sequence of SEQ ID NO: 2.

Claim 47 (New): A method for increasing biomass of a plant, comprising

operatively linking a nucleic acid encoding alanine aminotransferase to a root epidermis-specific promoter to form a construct;

introducing said construct into a plant cell;

producing a plant from said plant cell, wherein said plant comprises a root epidermis;

and

expressing said construct in said plant to produce elevated levels of alanine aminotransferase in said root epidermis in order to increase biomass of said plant.

Claim 48 (New): The method of claim 47, wherein plant is a canola plant.

Claim 49 (New): The method of claim 47, wherein said root epidermis-specific promoter has the nucleotide sequence of SEQ ID NO: 1.

Claim 50 (New): The method of claim 47, wherein said alanine aminotransferase is barley alanine aminotransferase.

Claim 51 (New): The method of claim 50, wherein said barley alanine aminotransferase nucleic acid has a nucleotide sequence of SEQ ID NO: 2.